



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,062	03/09/2005	Andrea Giori	2503-1113	1372
466	7590	11/29/2007		
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER PRATT, HELEN F	
			ART UNIT 1794	PAPER NUMBER
			MAIL DATE 11/29/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/509,062	<b>Applicant(s)</b> GIORI, ANDREA	
	<b>Examiner</b> Helen F. Pratt	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 5 are indefinite in the use of the phrase "tomato whole extract". It is not known what is meant by this phrase. Since the product is an extract, it cannot be seen to be a tomato whole extract. It could be an extract made from whole tomatoes.

In claim 1, step c, it is not known what part of the concentrate is further used.

In claim 2, line 1, a word has been left out after "A process as claimed in c". Also, on line 2, the word "out" is not clear.

In claim 2 (f), no basis is seen for the phrase "the lycopene precipitated from the concentrate".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ausich et al. (5,858,700) in view of Kagan (US 2003/0044495) and Schaap (WO 03/08064).

Ausich et al. disclose a process of making a tomato paste made by the claimed steps as in 1a and b of pretreating and heat concentrating tomatoes. The composition is then freeze dried and extracted with hexanes and the extracts were concentrated to make a tomato paste oleoresin containing lycopene. The composition is then saponified, then the composition is treated with water to disperse the reaction products and other impurities, and then filtered and lycopene crystals are recovered (col. 11, lines 60-70, col. 12, lines 1-60). The amount of lycopene is seen to have been within the disclosed range (col. 12, lines 46-60). The particular amount of reducing sugars is seen to be less than 1% since the lycopene paste oleoresin has been washed and reducing sugars are water soluble and would have been removed from the extract. Claim 1 differs from the reference in the use of water-saturated ethyl acetate. However, it would have been obvious to substitute other solvents for the claimed solvent because the number of solvents available are limited, and it would have taken only routine experimentation to arrive at the most effective solvent. In addition, Schaap discloses that ethyl acetate is known as a solvent (page 30, lines 9-11) and nothing is seen in using water-saturated ethyl acetate absent a showing of unexpected results. Kagan et al. disclose the use of water and ethyl acetate as solvents in extraction of carotenoids and lycopene (abstract and 0029, 0030, 0034, 0038). No patentable distinction is seen at this time in the use of water and ethyl acetate and in a hydrated ethyl acetate. Therefore, it would have been obvious to substitute the ethyl acetate of Schaap and the water-ethyl acetate mixture of Kagan in the process of Ausich et al. for its known.

function of being a solvent and to use a hydrated source of the solvent since Kagan et al. disclose the use of water and ethyl acetate as solvents in extraction of carotenoids.

Ausich et al. disclose a composition as in claim 5 containing from 90.6-89.6% total carotenoid analyzed as lycopene made from tomato paste (col. 12, lines 46-60). Claim 5 differs from the reference in the use of the process of claim 1. Claim 5 is also a product by process claim. The fact that the procedures of the reference are different than that of applicant is not a sufficient reason for allowing the product-by-process claims since the patentability of such claims is based upon the product formed and not the method by which it was produced. See *In re Thorpe* 227 USPQ 964. The burden is upon applicant to submit objective evidence to support their position as to the product-by-process claims. See *Ex parte Jungfer* 18 USPQ 2D 1796. Therefore, it would have been obvious to make a composition containing the claimed lycopene with low reducing sugars as shown by the combined references.

Claim 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ausich et al. as above as applied to claims 1, and 5 above, and further in view of Bombardelli et al. (EP 0818 225).

Claim 2 further requires concentrating the extract, filtering and drying the lycopene. Ausich et al. disclose that it is known to concentrate hexane extracts under vacuum to produce lycopene containing oleoresins (col. 13, lines 19-30). Even though the lycopene was taken from the dried skin, it would have been obvious to concentrate

any tomato composition in order to remove excess liquid. Filtering and drying is disclosed in col. 13, lines 45-55. Adding oil is disclosed by Bombardelli et al. (page 5, lines 20-35). Also, an oleoresin by definition is oil and a resin. Nothing new is seen in the use of "seed oil", as most oils are from seeds as in corn oil, flax seed oil, olive oil. Schaap et al. disclose that it is known to use ethyl acetate as a solvent when washing crystalline carotenoids (page 30, lines 8-15). The reference also discloses that it is known to wash the crystalline carotenoid suspension (page 30, lines 10-29). The biomass is used to produce lycopene (abstract). Therefore, it would have been obvious to treat lycopene containing ingredients as disclosed by Ausich et al., and to add oil to the resin product to make an oleoresin, using known oils and to use ethyl acetate as a solvent as shown by Schaap and Kagan et al. and to further wash the composition in an aqueous solution as shown by Schaap in order to make a lycopene composition.

Nothing new is seen in using oil from the tomato seed, absent anything new or unobvious as in claim 3 or in the use of soybean oil, as the reference to Bombardelli et al. use vegetable oil in general, and it would have been obvious to choose an oil which was compatible with the oleoresin in taste.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen F. Pratt whose telephone number is 571-272-1404. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Milton Cano, can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/509,062  
Art Unit: 1794

Page 6

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hp 11-27-07

  
**HELEN PRATT**  
**PRIMARY EXAMINER**